

The diagram illustrates a system architecture with the following components and connections:

- 101 VOICE SWITCH**: A rectangular block on the left.
- 103 PROCESSOR**: A rectangular block in the center.
- 105 Database**: A cylindrical block above the processor.
- 107**: A silhouette of a person holding a folder, representing a user.

Connections and Data Flow:

- An arrow labeled **Text or Binary** points from the **VOICE SWITCH** to the **PROCESSOR**.
- Two vertical arrows (one pointing up, one pointing down) connect the **PROCESSOR** and the **Database**, indicating bidirectional communication.
- Two parallel arrows (one pointing up, one pointing down) are positioned between the **PROCESSOR** and the **user** (107), indicating bidirectional communication.

Prior Art

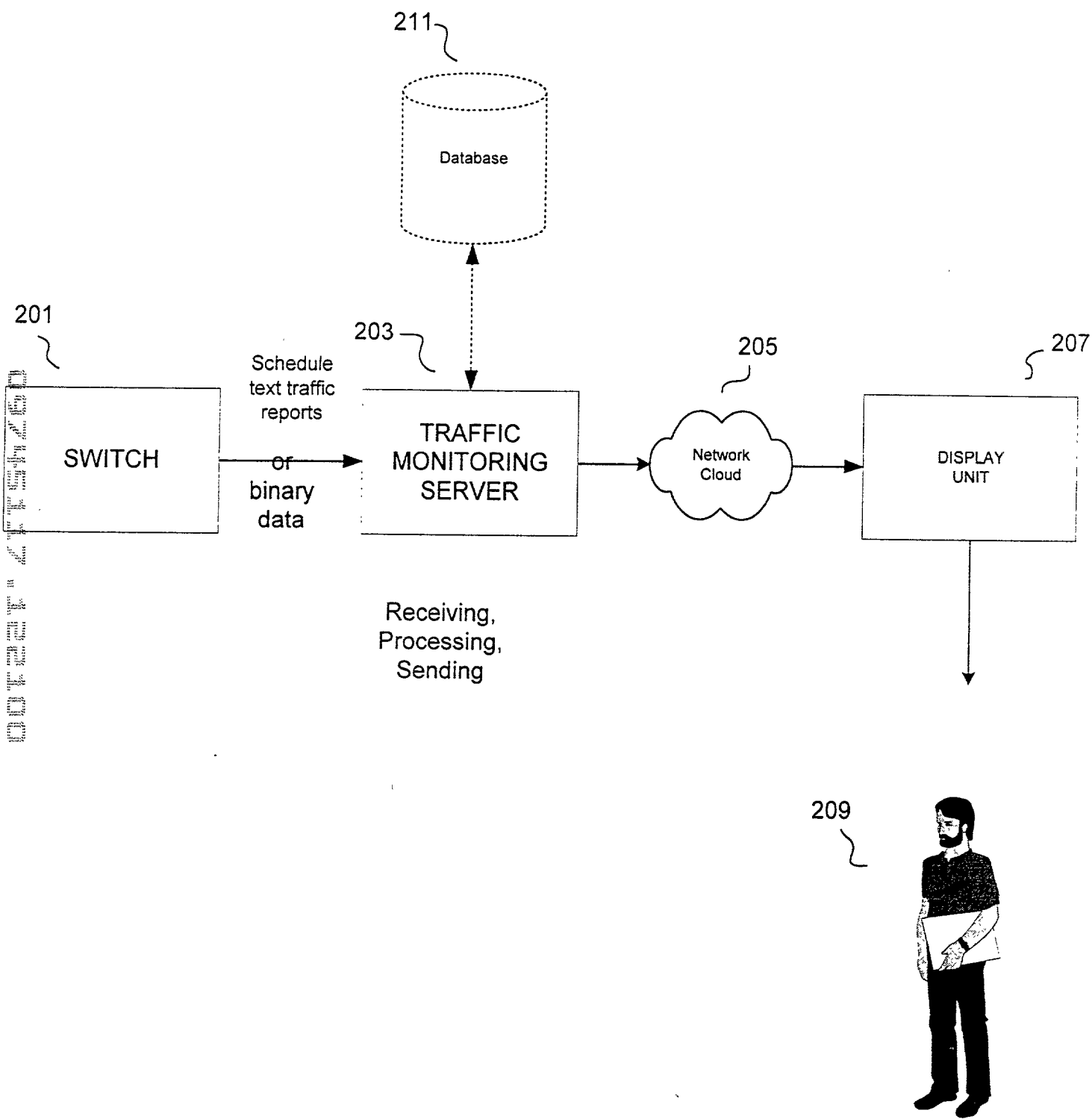


Figure 2

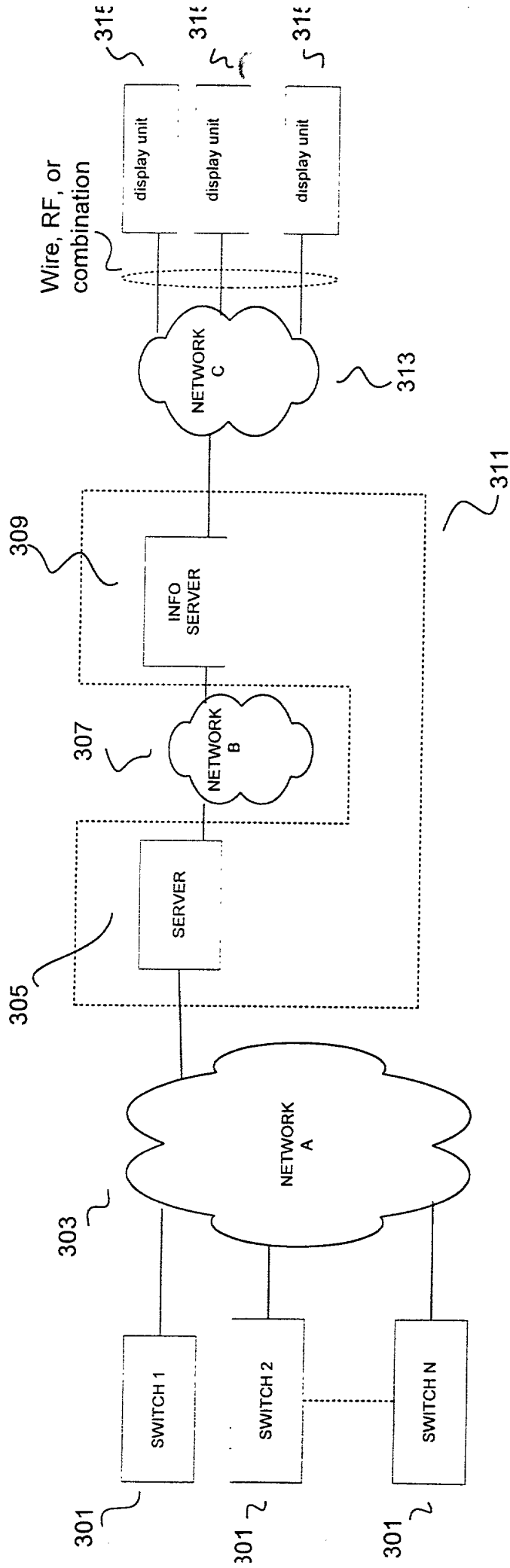


FIGURE 3

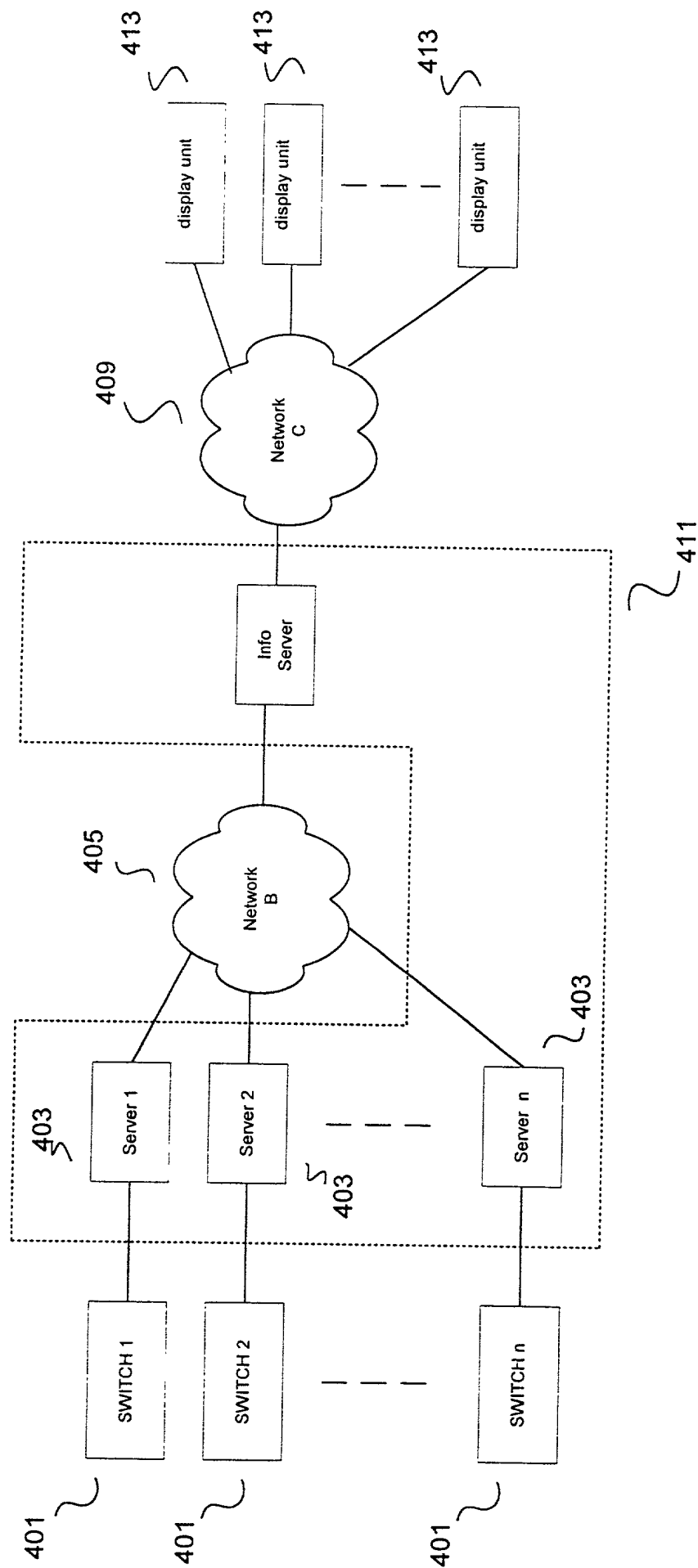


FIGURE 4

Either plurality of B
Networks or single
Network

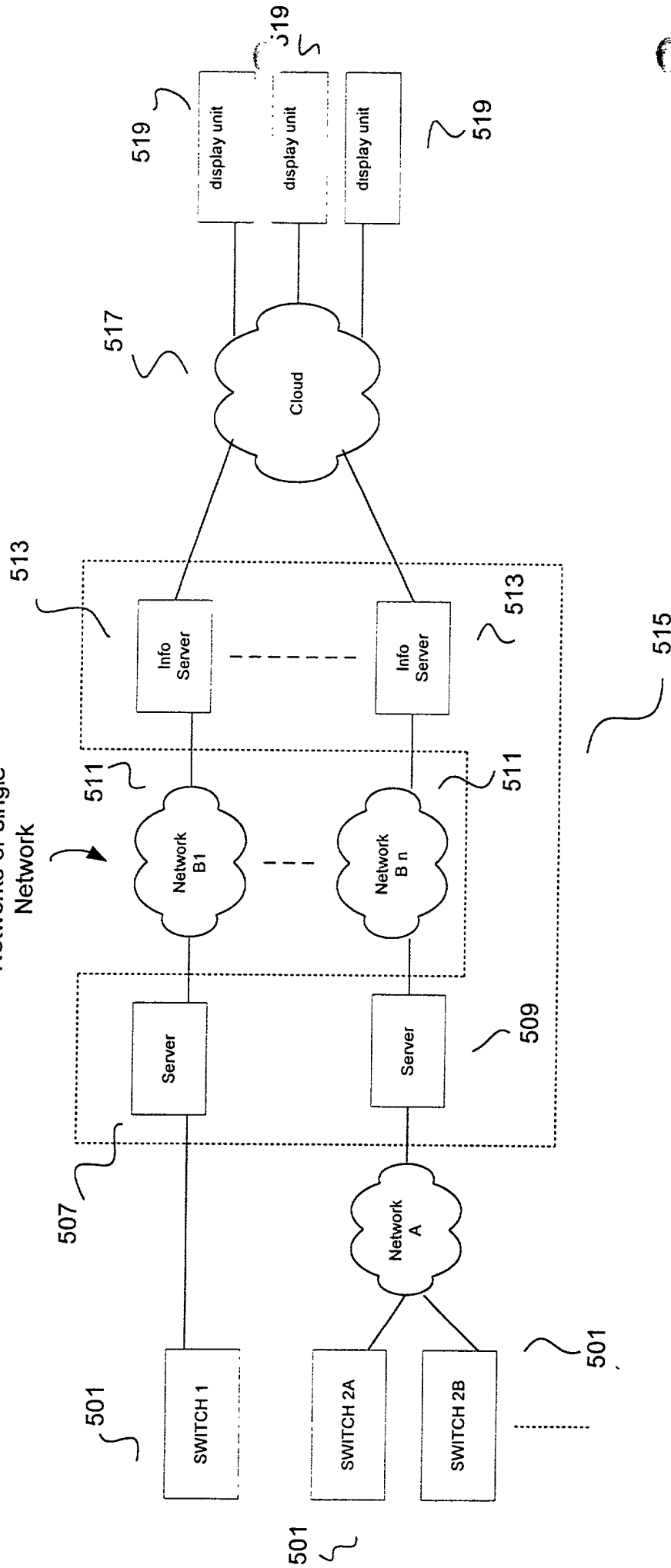


FIGURE 5

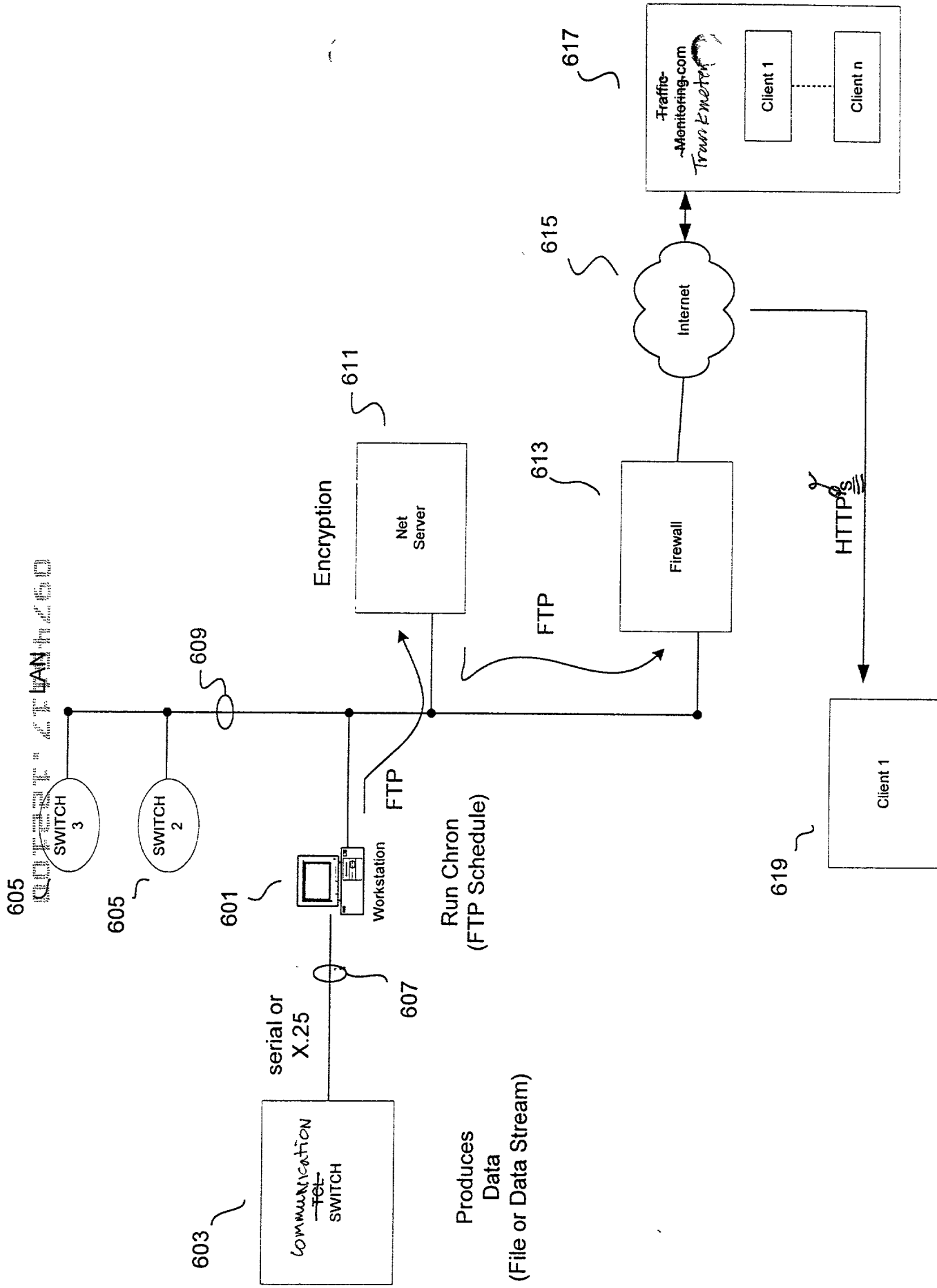
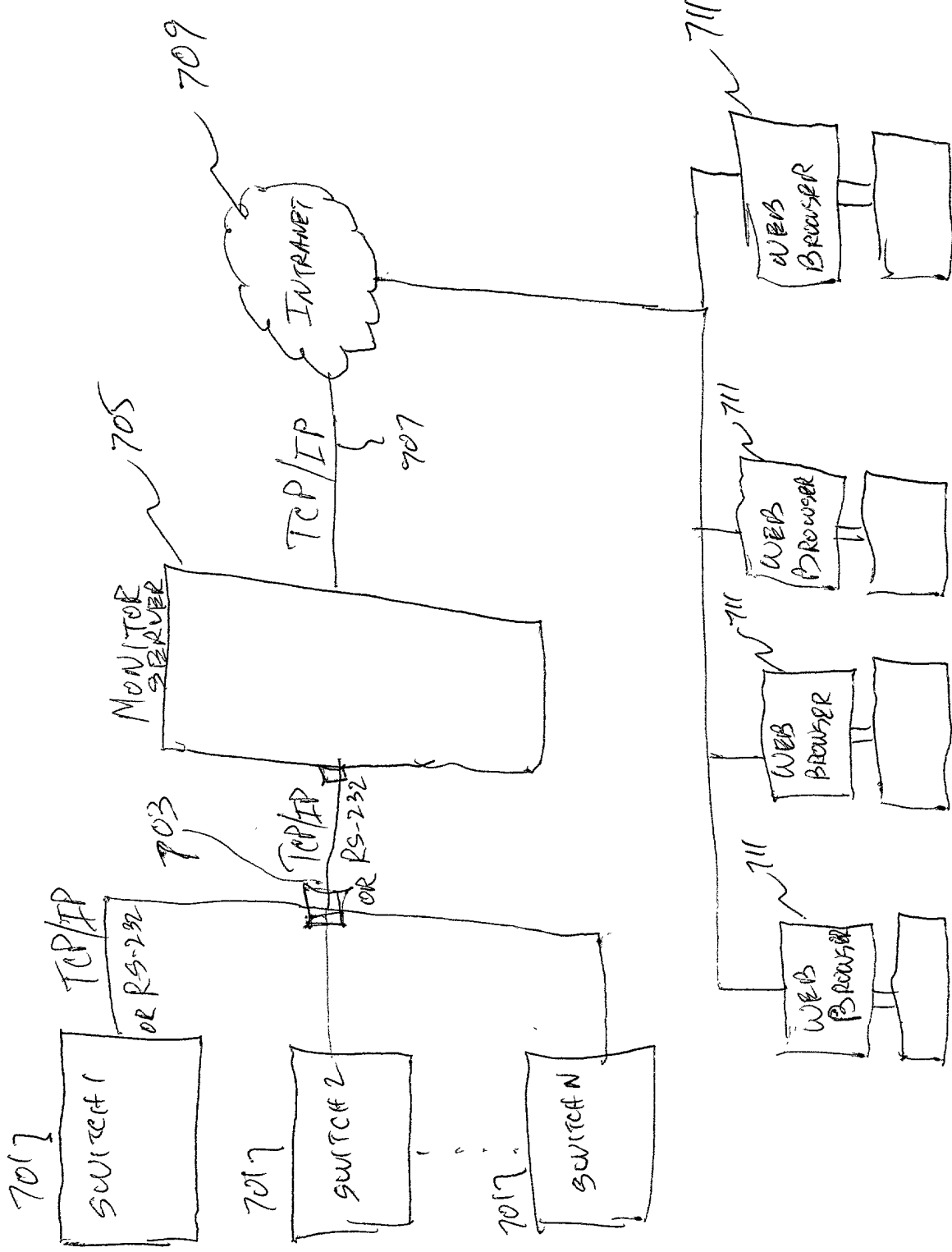


FIGURE 6



Switch Traffic Status Display

Switch ID	Latest Data	# TGs in Overflow	# TGs >90% Util	Switch ID	Latest Data	# TGs in Overflow	# TGs >90% Util
<u>Penryn</u>	9/2/99 09:00	2		<u>Colfax</u>	9/2/99 11:00		
<u>Auburn</u>	9/2/99 10:00	3		<u>Soda Springs</u>	9/2/99 10:00	1	
<u>Yuba City</u>	9/2/99 10:00	2					

FIG. 8

Soda Springs Hourly Traffic **Start: 02-Sep-99 09:00** **Stop: 02-Sep-99 10:00**

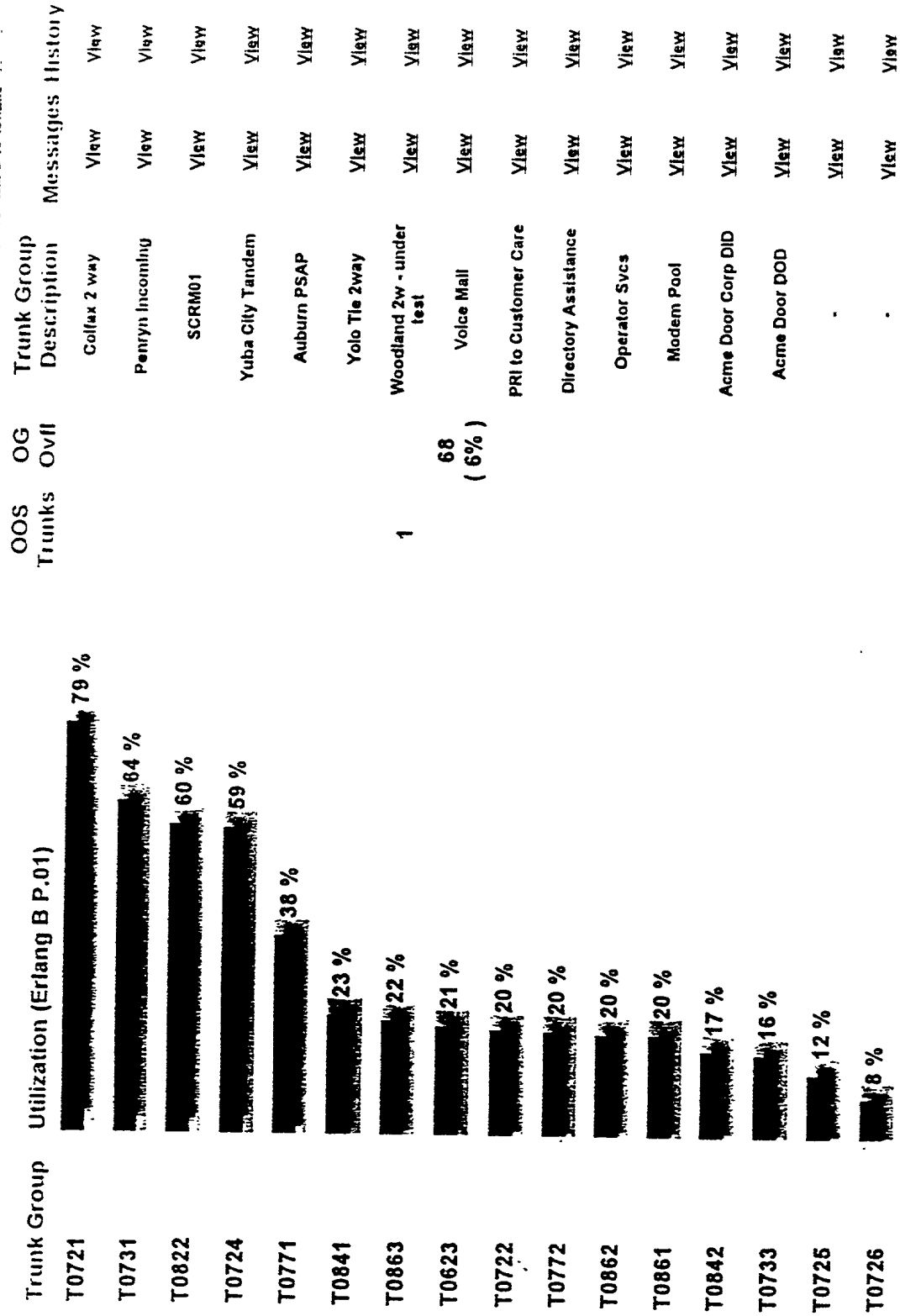


FIG. 9

Soda Springs Hourly Traffic Start: 02-Sep-99 09:00 Stop: 02-Sep-99 10:00

Trunk Group	Utilization (Erlang B P.01)	OOS Trunks	OG Ovfl	Trunks Req'd	Trunks Avail	MHT (sec)	OG ASR	CCS/Hr	IC Call Att	(Ca
T0721	79 %			155	192	122	85 %	4886	1936	2
T0731	84 %			31	44	107	84 %	751	409	2
T0822	60 %			91	144	140	82 %	2705	0	1
T0724	59 %			9	12	71	-	125	175	2
T0771	38 %			7	12	159	98 %	81	0	2
T0841	23 %			9	24	53	98 %	126	0	2
T0863	22 %	1		21	71	143	71 %	452	220	2
T0823	21 %		68 (6%)	21	72	44	77 %	436	3	1
T0722	20 %			3	6	78	-	14	18	2
T0772	20 %			5	12	93	-	42	45	2
T0862	20 %			14	48	66	-	257	389	2
T0861	20 %			14	48	67	92 %	257	0	2
T0842	17 %			8	24	59	-	91	153	2
T0733	16 %			7	24	82	*	89	109	2
T0725	12 %			6	24	78	*	67	86	2
T0726	8 %			5	24	65	-	43	66	2

FIG. 10

Display:

Basic

Full

Peak Usage

Raw Data

Data Avail

Sort:

Overflow

OOS Trunks

MHT

ASR

TG Sizing

Soda Springs 30 day Peak Usage as of: 02-Sep-99 10:00

CSV format

Trunk Group	Peak Utilization (Erlang B P.01)	Peak CCS/Hr	Peak OG Ovl	Date of Peak	Peak Hour	Peak TrksReqd at Peak	TrksAvail Current
T0721	██████████ 102 %	6306		9/1/99	16:00	196	192
T0731	██████████ 88 %	1034		8/31/99	16:00	40	44
T0723	██████████ 87 %	60		8/26/99	15:00	6	6
T0724	██████████ 85 %	180		8/31/99	17:00	11	12
T0822	██████████ 75 %	3419		9/1/99	16:00	112	144
T0771	██████████ 67 %	141		8/20/99	09:00	10	12
T0722	██████████ 64 %	44		9/1/99	11:00	5	6
T0841	██████████ 63 %	330		8/27/99	17:00	17	24
T0725	██████████ 55 %	305		9/1/99	16:00	16	24
T0861	██████████ 44 %	569		8/30/99	17:00	25	48
T0862	██████████ 44 %	568		8/30/99	17:00	25	48
T0842	██████████ 42 %	231		8/20/99	16:00	13	24
T0733	██████████ 38 %	207		8/27/99	15:00	12	24
T0772	██████████ 34 %	73		8/24/99	12:00	7	12
T0623	██████████ 31 %	638	6%	8/27/99	16:00	27	72
T0863	██████████ 28 %	581		8/30/99	20:00	26	72

FIG. 11

FIG.12

invertix

TrunkMeter™

Display:

Basic

Full

Peak Usage

Raw Data

Data

Home

Help

Index

Sort:

Overflow

OOS Trunks

MHT

ASR

TG:

Soda Springs Raw Traffic Data Start: 02-Sep-99 09:00 Stop: 02-Sep-99 10:00

HOURL 10

SW 01 09/02/99 09:00 09/02/99 10:00

T0001	17	00009	00000	00000	00000	00000	00000	00000	00033	00000	00000	00000
		00000	000000431	00000								
T0002	17	00010	00000	00000	00000	00000	00000	00000	00008	00000	00000	00000
		00000	000000141	00000								
T0003	17	00011	00000	00000	00000	00000	00000	00000	00013	00000	00000	00000
		00000	000000192	00000								
T0004	17	00009	00000	00000	00000	00000	00000	00000	00003	00000	00000	00000
		00000	000000091	00000								
T0005	17	00008	00000	00000	00000	00000	00000	00000	00011	00000	00000	00000
		00000	000000133	00000								
T0006	17	00008	00000	00000	00000	00000	00000	00000	00012	00000	00000	00000
		00000	000000238	00000								
T0007	17	00006	00000	00000	00000	00000	00000	00000	00007	00000	00000	00000
		00000	000000099	00000								
T0008	17	00011	00000	00000	00000	00000	00000	00000	00015	00000	00000	00000
		00019	000000234	00000								
T0009	17	00006	00000	00000	00000	00000	00000	00000	00004	00000	00000	00000
		00000	000000053	00000								
T0010	17	00006	00000	00000	00000	00000	00000	00000	00009	00000	00000	00000
		00000	000000073	00000								
T0011	17	00011	00000	00000	00000	00000	00000	00000	00014	00000	00000	00000
		00000	000000131	00000								
T0012	17	00007	00000	00000	00000	00000	00000	00000	00017	00000	00000	00000
		00000	000000214	00000								
T0013	17	00007	00000	00000	00000	00000	00000	00000	00013	00000	00000	00000
		00000	000000167	00000								
T0014	17	00006	00000	00000	00000	00000	00000	00000	00010	00000	00000	00000
		00000	000000120	00000								
T0015	17	00006	00000	00000	00000	00000	00000	00000	00009	00000	00000	00000
		00000	000000064	00000								
T0016	17	00007	00000	00000	00000	00000	00000	00000	00021	00000	00000	00000
		00000	000000286	00000								
T0018	17	00009	00000	00000	00000	00000	00000	00000	00015	00000	00000	00000
		00000	000000247	00000								
T0019	17	00006	00000	00000	00000	00000	00000	00000	00004	00000	00000	00000
		00000	000000059	00000								
T0020	17	00006	00000	00000	00000	00000	00000	00000	00015	00000	00000	00000
		00000	000000128	00000								
T0021	17	00010	00000	00000	00000	00000	00000	00000	00047	00000	00000	00000
		00000	000000495	00000								
T0022	17	00013	00000	00000	00000	00000	00000	00000	00053	00000	00000	00000
		00000	000000772	00000								
T0023	17	00006	00000	00000	00000	00000	00000	00000	00007	00000	00000	00000
		00000	000000101	00000								
T0024	17	00006	00000	00000	00000	00000	00000	00000	00006	00000	00000	00000
		00000	000000111	00000								
T0025	17	00008	00000	00000	00000	00000	00000	00000	00021	00000	00000	00000
		00000	000000228	00000								
T0026	17	00007	00000	00000	00000	00000	00000	00000	00007	00000	00000	00000
		00000	000000093	00000								

09/02/99 09:00

Soda Springs 30 Day Data Availability Data Available L Latest Data nd No Data

Date	Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
10-Aug-99																									
11-Aug-99			nd	nd	nd	nd	nd																		
12-Aug-99																			nd						
13-Aug-99									nd	nd				nd				nd							
14-Aug-99											nd														
15-Aug-99																						nd	nd	nd	nd
16-Aug-99		nd	nd	nd	nd	nd	nd	nd	nd										nd						
17-Aug-99				nd	nd																			nd	nd
18-Aug-99			nd							nd		nd													
19-Aug-99										nd		nd	nd					nd	nd	nd	nd	nd	nd	nd	nd
20-Aug-99		nd	nd	nd	nd	nd	nd	nd																	
21-Aug-99																									
22-Aug-99																									
23-Aug-99											nd	nd				nd	nd								
24-Aug-99														nd											
25-Aug-99																									
26-Aug-99															nd	nd									
27-Aug-99																							nd	nd	nd
28-Aug-99		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
29-Aug-99		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
30-Aug-99		nd	nd	nd	nd	nd	nd	nd				nd											nd	nd	nd
31-Aug-99		nd	nd	nd	nd	nd																			
01-Sep-99																									
02-Sep-99																									

FIG. 13

Soda Springs Hourly Traffic (Overflow Sorted) Start: 02-Sep-99 10:00 Stop: 02-Sep-99 11:00

Trunk Group	Utilization (Erlang B P.01)	OG Ovfl	OOS Trunks	Current TrksReqd	Current TrksAvail	MHT (sec)	OG ASR
T0623	23 %	61 (8%)		22	72	46	77 %
T0721				167	192	118	84 %
T0724	86 %			11	12	83	*
T0822	78 %			100	144	135	80 %
T0731	66 %			31	44	98	87 %
T0771	63 %			7	12	187	91 %
T0723	41 %			4	6	120	*
T0862	36 %			20	48	82	-
T0861	31 %			20	48	84	91 %
T0841	30 %			11	24	52	99 %
T0772	25 %			6	12	137	-
T0863	22 %			21	72	118	77 %
T0842	21 %			9	24	56	-
T0733	17 %			8	24	59	*
T0725	17 %			8	24	86	-
T0726	9 %			5	24	47	-

FIG.14

Soda Springs Hourly Traffic(OOS Trunks Sorted) Start: 02-Sep-99 10:00 Stop: 02-Sep-99 11:00

Trunk Group	Utilization (Erlang B P.01)	OOS Trunks	OG Ovfl	Current TrksReqd	Current TrksAvail	MHT (sec)	OG ASR
T0624	0%	96		0	0	-	-
T0751	0%	24		0	0	-	-
T0884	0%	24		0	0	-	-
T0621	0%	1		0	23	-	-
T0622	0%	1		0	23	-	-
T0771	41%		7	12	187	91%	
T0723	36%		4	6	120	*	
T0862	31%		20	48	82	-	
T0861	31%		20	48	84	91%	
T0841	30%		11	24	52	99%	
T0772	25%		6	12	137	-	
T0863	22%		21	72	118	77%	
T0842	21%		9	24	56	-	
T0733	17%		8	24	59	*	
T0725	17%		8	24	86	-	
T0726	9%		5	24	47	-	

FIG. 15

Soda Springs Hourly Traffic (MHT Sorted) Start: 02-Sep-99 10:00 Stop: 02-Sep-99 11:00

Trunk Group	Utilization (Erlang B P.01)	MHT (sec)	OOS Trunks	OG Ovfl	Current TrksReqd	Current TrksAvail	OG ASR
T0732	0.9%	9			2	24	-
T0623	23%	46		61 (6%)	22	72	77%
T0726	9%	47			5	24	-
T0722	7%	50			2	6	-
T0841	30%	52			11	24	99%
T0842	21%	56			9	24	-
T0733	17%	59			8	24	*
T0862	31%	82			20	48	-
T0724	78%	83			11	12	*
T0861	31%	84			20	48	91%
T0725	17%	86			8	24	-
T0731	63%	98			31	44	87%
T0700	0.4%	100			2	24	100%
T0721	86%	118			167	192	84%
T0863	22%	118			21	72	77%
T0723	35%	120			4	6	*

FIG. 1b

Soda Springs Hourly Traffic (ASR Sorted) Start: 02-Sep-99 10:00 Stop: 02-Sep-99 11:00

Trunk Group	Utilization (Erlang B P.01)	OG ASR	OOS Trunks	OG Ovfl	Trunks Req'd	Trunks Avail	MHT (sec)
T0623	23 %	77 %		61 (6%)	22	72	46
T0863	22 %	77 %			21	72	118
T0822	66 %	80 %			100	144	135
T0721	86 %	84 %			167	192	118
T0731	63 %	87 %			31	44	98
T0771	41 %	91 %			7	12	187
T0861	31 %	91 %			20	48	84
T0841	30 %	99 %			11	24	52
T0700	0.4 %	100 %			2	24	100
T0862	31 %	-			20	48	82
T0772	25 %	-			6	12	137
T0842	21 %	-			9	24	56
T0725	17 %	-			8	24	86
T0726	9 %	-			5	24	47
T0722	7 %	-			2	6	50
T0732	0.9 %	-			2	24	9

FIG.17

Soda Springs Trunk Group Sizing Analysis for Peak Usage as of: 02-Sep-99 11:00

Trunk Group	Peak Utilization (Erlang B P.01)	Over/Under Trunking	Peak TrksReqd	Current TrksAvail	Peak OG Ovfl
Trunk Groups without enough capacity					
T0721	██████████	- 4	196	192	
Trunk Groups with sufficient or extra capacity					
T0863	██████████ 28 %	+ 46	26	72	6%
T0623	██████████ 31 %	+ 45	27	72	
T0822	██████████ 75 %	+ 32	112	144	
T0224	0%	+ 24	0	24	
T0843	0%	+ 24	0	24	
T0225	0%	+ 24	0	24	
T0861	██████████ 44 %	+ 23	25	48	
T0621	0%	+ 23	0	23	
T0622	0%	+ 23	0	23	
T0862	██████████ 44 %	+ 23	25	48	
T0702	██████████ 0.7 %	+ 22	2	24	
T0732	██████████ 7 %	+ 19	5	24	
T0700	██████████ 8 %	+ 19	5	24	
T0726	██████████ 26 %	+ 14	10	24	

FIG.18